Some notes for getting an understanding of asbestos-related diseases:

From John C Wagner & Kathryn McConnochie *INDUSTRIAL DISEASES* (The Physician, December 1983):

"0ne may well ask why there should be a difference in behaviour between different types of asbestos. Several factors are involved, the most important being fibre size; long thin fibres, usually amphiboles, are the most dangerous. [Why that is] is still controversial. Processing alters fibres and we can recognise those industries in which workers are at less risk, probably due to changes in the fibrous form. Knowledge of which local industries used asbestos in the past can be of great help to a GP..."

Disease entities

In this country, asbestos may produce pleural thickening and plaques, asbestos pleurisy with effusion, interstitial lung disease, carcinoma of the lung, and mesothelioma of the pleura and peritoneum. The severity of the disease may reflect the degree of exposure.

Pleural plaques occur in groups who have had moderate exposure to asbestos. If the plaques calcify, more likely on the diaphragm then visualization is easier. Pleural thickening can be more irregular and is even more difficult to see. Advanced cases have a 'crows' feet' configuration running across the chest X-ray. Clinical presentation is varied, eg plaques may be found by chance or they may be found in a patient presenting with lung cancer. They are useful markers of exposure. Plaques are less likely than diffuse pleural thickening to be associated with underlying interstitial [between parts i.e. connective tissue] disease. 0n their own plaques cause virtually no disturbance of lung function and neither are they thought to be direct precursors of pleural mesothelioma.

PATHOLOGY: Pleural plaques are areas of scarring found on pleural surface lining wall. Usually bilateral and symetrical; large areas of scarring also found on diaphragm. Vary in size from small discrete discs to large thick layers completely enveloping the lungs.

ASBESTOS PLEURISY: Not recognised often because adequate occupational

history not obtained. Clinical presentation may simulate pleurisy of infective origin, with pain, fever, and leukocytosis, which resolves leaving widespread pleural thickening. 0r it may be benign, self-limiting, and not recognised by either doctor or patient. The relationship of this disease to mesothelioma and lung cancer is not fully understood - few cases yet been identified. Speculation that diffuse pleural thickening often associated with underlying interstitial disease, may be a result of unrecognised asbestos pleurisy and quite a different entity from discrete pleural plaques with no underlying disease. [pleura: thin membrane covering each lung, lines the inner surface of the thoracic cavity]

ASBESTOSIS: All forms of asbestos may cause pulmonary fibrosis. The radiographic appearance of asbestosis is rather like that of other forms of pulmonary fibrosis with irregular opacities predominantly in the lower lobes. The clue relating this interstitial change to asbestos is the finding of pleural thickening or plaques. Careful search for calcification on the diaphragm may be rewarding. Textbook description of shaggy heart border and indistinct diaphragm is rare, only in advanced cases. Chest X-rays in asbestosis generally look more untidy with more aggregation eg than idiopathic (ie without apparent cause) pulmonary fibrosis.

Lung function tests classically reveal a restrictive pattern with decreased lung volumes and decreased gas transfer. Those with airways obstruction show a mixed picture.

Asbestos bodies (ferruginous bodies) may be found in sputum. They indicate exposure to asbestos but not a mark of disease.

Rarely necessary to obtain tissue to make diagnosis but if necessary then an open lung biopsy should be considered. Lung function changes may precede radiological and clinical evidence and, particularly in early stages, it is not uncommon to hear crackles while the chest X-ray is still normal.

Risk of smokers exposed to asbestos developing lung cancer is 50 times greater than the risk in nonsmokers with no exposure; nonsmokers with exposure have a five-fold greater risk.

LUNG CANCER: Mesothelioma of the pleura is the tumour most commonly associated with asbestos exposure but many more workers will die of lung cancer. 0ver the past 30 years there have been numerous epidemiological studies confirming the association between asbestos exposure and lung cancer, even in nonsmokers.

Association believed causal; rates quoted vary, depend on method of study. Latency period 20 years, risks greater for those with higher exposure. Suggested that adenocarcinoma is most common type of tumour in asbestos workers in contrast to general population.

Workers with evidence of significant asbestos exposure and with lung cancer are eligible for compen. But difficulty with smokers here who don't have evidence of considerable exposure. Cigarettes are more likely than asbestos to cause lung cancer. Matter yet to be resolved.

MESOTHELIOMA OF PLEURA AND PERITONEUM: Can develop after apparently minimal exposure, evidence that risk increases with exposure. Latency may be 30 to 40 years. Appears no connection between smoking and mesothelioma.

CLINICAL FEATURES: First symptoms of pleural mesothelioma often dull chest pain and, typically, shoulder pain. When patient presents it's common to find pleural effusion with weight loss, cough and shortness of breath. Signs depend on stage of disease. Clubbing is common and acute arthropathy has been described [disease of the joints; commonly used to imply secondary damage to joints as result of other disease processes]. Diagnosis best made by getting accurate history of exposure and if possible finding malignant mesothelioma cells in pleural fluid. Biopsy should be avoided. CAT scan useful for early diagnosis.

Peritoneal mesothelioma less common; usually presents late with dull pain, abdominal swelling, weight loss and ascites [fluid collection in abdominal cavity]. Exfoliative cytology [study of cells disquamated from epithelia] helps diagnosis.

Very rarely more than two years; usually six months from diagosis to death. No chemotherapy shown to be of value; treatment symptomatic.

from *FIGHTING ASBESTOS: at Work & Home*, leaflet: During 1978 asbestos was found in the roof space and the ventilation ducts of the House of Commons. A detailed letter by the factory inspectorate was sent to every MP outlining the problem. It revealed that the ducts contained brown asbestos and the levels with the ventilation switched off were 10 to 100 times below the then hygiene standard. Yet ALL asbestos was immediately removed

the great quote from N J Wikely:
"There has long been a tension between the differing legal and medical perspectives on issues of causation and proof. 'Medical opinion on questions of etiology [the science of causes], perhaps drawing on perceptions of the nature of scientific proof, often seems to demand a proof of the affirmative going beyond the balance of probabilities prescribed by law."

guidelines from the European chemical workers etc.

There is no 'safe' level of exposure to asbestos. None whatsoever.

p14) "0ne standard measurement used to show dust concentrations is the number of fibres found in one cubic metre of air. An average person would be expected to breathe between 4 to 8 cubic metres (m3) of air in a normal working day (8 hours) depending on size of individual and the level of exertion. Trimming asbestos cement makes a dust concentration of about 2.5 million fibres in every cubic metre of air, according to Swedish figures, and 4 million fibres/m3 near an asbestos textile operation which lines up asbestos fibres (carding). In one school in the USA with an asbestos roof, 3.8 million fibres were found in every cubic metre of air. Workers exposed to the asbestos carding process described above throughout an 8-hour working day would therefore be breathing into their lungs some 16-32 MILLION tiny fibres every day and the American school children not much less. Any 0NE of these fibres might prove the origin of fatal disease."

"Fibres rejected from the lungs leave minute scars as the wounds heal and those that remain develop around them secretions which harden and may stick to the lung and its containing walls."

"0f the total asbestos-induced cancers, 80 per cent are in the lungs, 10 per cent are of the lining of the lungs and intestines, and 10 per cent in other sites - particularly throat, intestines and stomach. 0ne authority estimates that asbestos may cause up to 17 per cent of all cancers in the USA..."

"If the numbers of implanted fibres or scars from rejected fibres increase with

repeated exposures it is obvious that the delicate and flexible tissues in different parts of the lung begin to lose their flexibility and contract. This is fibrosis. As the process continues the lungs lose the ability to deliver oxygen to the blood. The person loses the ability to breathe. He or she has **asbestosis** and may take anything up to five years to die a slow and degenerative death or to struggle on as an increasingly disabled person until some other illness causes death. Asbestosis doesn't stop its relentless progress when the person is removed from exposure to asbestos dust."

"At one time causes of death among workers exposed to asbestos were pneumonia or influenza...but when better general health conditions developed and antibiotics and other drugs attacked pneumonia and other respiratory diseases, asbestosis sufferers were observed to die from another frequent cause - **cancer**. Then came the discovery that some individuals, for reasons unknown, could develop lung cancer and mesothelioma after just ONE exposure." To give an idea of how seriously we can take this last discovery; when it came to light "the world's largest asbestos multinational was so concerned it moved its executive-offices into the purest air in the USA - the Rocky Mountains..."

"Studies by independent scientific authorities indicate that anyone whose work involves exposure to asbestos has OVER FIVE TIMES THE CHANCE OF DYING FROM LUNG CANCER (NY Academy of Sciences 1979) compared to the average industrial worker who is not exposed to asbestos. In the high asbestos exposure occupation of insulation installation almost half the workers eventually die from asbestos disease."

"Another multinational PR emphasis... (because) mesothelioma is the one cancer known to be caused only by asbestos (and) is relatively rare in the population at large, manufacturers encourage the belief that mesothelioma is the only form of cancer proven to be caused by asbestos". This is not true. Mesothelioma is the cancer of the membranes lining the lungs and intestines. It accounts for just 10 per cent of cancers which have been proven to be induced by exposure to asbestos: 80 per cent of asbestos cancers are lung cancers and a further 10 per cent are other types of cancers, and asbestos also kills by inducing asbestosis. To concentrate on mesothelioma is to concentrate on the minor killer at the expense of the major killer effects." "The multinationals adopt this position because the lower level of risk

reported, the less opposition to the continued use of asbestos, the less pressure for expensive control equipment and the less they pay out in compensation."

BLUE against WHITE:

The blue against white argument is based on early studies of South African miners and rests on the shaky grounds that the smaller the diameter of the fibre the greater the cancer risk (blue is smaller and more brittle than white). But independent authorities concistently challenge this proposition. Maybe blue is slightly more dangerous under certain circumstances and for certain cancers in certain individuals. This like saying a needle is more dangerous than a pin - but BOTH hurt and blind if you get them in the eye. ALL asbestos MUST be regulated."

LOCKED IN: the new excuse

the idea that asbestos 'locked-in' (embedded in) plastic and cement was not dangerous. If we accept this argument then almost all uses of asbestos become okay! But evidence that these 'locked-in' fibres were escaping has become overwhelming. Fibres are actually released even from normal wear and tear and weathering on vinyl plastic floor tiles and asbestos roofing slates. Even more important, 'locked-in' materials get cut up and sawn and drilled. Even transporting asbestos/concrete slabs produces asbestos fibres in the air - sometimes more than actual sawing.

FIBRE MODIFICATION

the idea that asbestos-disease is caused not by the actual asbestos fibre by an unknown chemical substance present upon it. The next step is to argue that if we 'cleanse' the fibre by medical treatment we get rid of these unknown substances and so the fibre itself becomes 'safe'. (p 31 for fuller details on why we don't take this seriously)

[taken from NON MEANS TESTED BENEFITS: THE REGULATIONS:

notes on SSAT make-up

Social Security (Adjudication) Regulations 1986

p 245 "in the case of SSAT'S [Appeal Tribunals] it is important to distinguish between powers given to the tribunal and powers given to the chairman alone. In general, matters of procedure are for the chairman unless the regulations specify otherwise, while matters of substance are for the tribunal acting collegiately. The chairman and members have an equal say on all issues of fact and law in the determination of the appeal. The overall function of the tribunals has been described by Commissioner Hallett in R(S)1/87 as follows:

> 'The jurisdiction of...the social security appeal tribunal... is investigatory or inquisitorial. A social security appeal tribunal is exercising quasi-judicial functions and forms part of the statutory machinery for investigating claims in order to ascertain whether the claimant satisfies the statutory requirements which entitle him to be paid benefit. It is not restricted, as in ordinary litigation which are proceedings between parties,to accepting or rejecting the respective contentions of theclaimant on the one hand and the adjudication...officer on the other... Its investigatory function has as its object the ascertainment of the facts and the determination of the truth...'

Broadly speaking, a tribunal must pick up on points identified as being relevant to the appeal, but a tribunal is not expected to ferret around in undisputed facts in the hope of turning up some points in favour of the claimant. The primary duty for making out a case rests in most cases on the claimant.

In R(S)1/88 the Commission has emphasised the importance of claimants and their representatives having their medical evidence in good order before the appeal tribunal hearing. Appeals to the Commissioners after April 6, 1987 lie only on a point of law and a tribunal will not err in law simply because it takes no account of evidence which was not put before it. This means that the appeal hearing is likely to be the last practical opportunity for medical evidence to be adduced in connection with a claim... There is a power in reg. 8 of the Adjudication Regulations for the tribunal to refer any

question arising in the appeal for a report by a medical practitioner.

Though the regulation gives the chairman a broad discretion to determine procedure, there is no doubt that the rules of natural justice apply to tribunals: R(SB)11/83, para 13.

New points arising in the course of the hearing:
Tribunals should always be sensitive to the need to allow either appellant or AO to have an adjournment (reg 5(2) to consider the implications of entirely new points of substance arising for the first time during the hearing. New facts which simply add detail to what has already been said to the department are not points of substance unless they raise a question of entitlement to some other benefit. [adjournments can be for 15 minutes or set back to a future date altogether]

Time Limits (p247)
[set out in Schedule 2.] provides a single time limit of three months for the making of applications, appeals or references. Time for appeal runs from the date the decision was posted to the claimant and ends with the date of receipt of the appeal by a local office. Tribunals are frequently told there are approved practices for the date stamping of incoming mail delivered by the Post 0ffice, left in a letter box at the local office, or handed in at the local office, but the experience of tribunals reveals considerable local variations of practice. Where time limits are in issue it is important for tribunals to hear evidence of practice in the specific office and to make findings of fact on this issue. The presenting AO may be able to give this evidence. If not an adjournment may be necessary to enable a witness from the Department to attend.

Under para (3) the time limit for making an application, appeal (other than application for leave to appeal to the Commissioner) or reference may be extended for "special reasons". These need not be related to the lateness of the filing of the appeal; they may relate to all the surrounding circumstances. Applications for such extensions must set out the grounds on which they are made: para (5), but once refused, no further application for an extension is possible: para (4). There is no appeal against a refusal to extend the time for appealing: R(SB)24/82.

The requirement that sufficient particulars of the decision under appeal be given to enable it to be identified is introduced with effect from April 6, 1990 to avoid

difficulties that can arise where a claimant simply appeals, for example, against 'all adverse decisions since...' A claimant using this formula can now be asked to identify the decisions against which the appeal is intended to operate.

Particulars of the appeal etc.

Where appeals, applications or references contain 'insufficient particulars to enable the question at issue to be determined' any of the authorities may require the furnishing of further particulars but only for the person making the application, appeal or reference. The benefits of the detailed letter of appeal are well known. Every appeal triggers a review of the decision appealed against in the Department and around one in four decisions are reviewed in favour of the claimant. The more detail there is in the appeal letter, the better the chance of a favourable review. Reviews which result in the appellant getting everything s/he wants will cause the appeal to lapse, but a fresh right of appeal attaches to the revised decision. The Commissioners have advised that a decision should not be reviewed unless it gives an appellant everything they seek; leaving the original appeal to run its course.

Jurisdiction

Since the implementation of the Social Security Act 1986 there has been a marked increase in the number of appeals relating to matters outside the jurisdiction of the tribunals.

Adjournments

a) absence of a party to the proceedings

b) a new point of substance is raised (time is required to consider the implications) or

c) there is insufficient evidence to enable the tribunal to make the findings of fact necessary to determine the appeal

d) there is no member of the tribunal the same sex as the claimant.

In making the decision to adjourn, the tribunal should balance the interests of justice against the invariable delay an adjournment will cause. It will be a breach of natural justice to refuse an adjournment, even after a number of earlier adjournments to obtain medical evidence, where the grounds of the application indicate that an appointment

with a consultant has been obtained. Proceedings at an adjourned hearing before a differently constituted tribunal are by way of a complete rehearing of the case.

Correction of accidental errors in decisions p254

Subject to regulation 12 accidental errors in any decision or record of a decision may at any time be corrected by the adjudicating authority who gave the decision or by an authority of like status (another tribunal if the original decision was a tribunal decision; "adjudicating authority" here includes the Secretary of State). A correction is deemed part of the decision and written notice of it shall be given as soon as praticable to every party of the proceedings. There is no appeal against a correction or the setting aside of a previous decision.

There is 'no decision' until the written record is sent to the parties. A decision can be announced orally at the end of a hearing but is by law required to be in writing and signed. The decision remains under the control of the person or body who gave it and can be withdrawn before the decision is promulgated and before the time for appealing starts to run.

Setting aside of decisions on certain grounds

Setting aside decisions should be carefully distinguished from review and appeal to the Commissioner. Setting aside wipes out the original tribunal hearing enabling the appeal to be heard afresh by a differently constituted tribunal. Three grounds are required for setting aside decisions, but establishing a ground still leaves the tribunal to decide whether it appears just to set the decision aside.

Either AO or claimant can apply to have the decision set aside. Commissioner Mitchell, (R(SB) 31/83, encouraged use of the power noting that is cheaper and quicker than appeal to the Commissioners without prejudicing any ultimate further appeal.

Commissioner Goodman (R(S)3/89) has considered the scope of the power to set aside decisions contained in para (1)(c) where "the interests of justice so require". "The application of para (1)(c) must be confined to cases where there have been obvious mistakes or procedural mishaps, major or minor, when there is no real debate as to fact or law and where clearly something has gone wrong with the...decision. That is not the same as one party's contention (not conceded by the other party) that he

does not agree with either the factual or the legal conclusions in the [decision].
Setting aside results in a fresh hearing before a differently constituted tribunal which has before it all the material before the original tribunal whose decision was set aside.
In regulations 10 and 11

(see p257-9 on role of Secretary of State)

"0ne of the most unusual aspects of the special medical boards is that they appear to be subject to no outside checks, other than by way of appeal to the Medical Appeal Tribunal. In contrast, the lay authorities are subject to a degree of supervision at all levels. Particularly at the lowest level. Adjudicating 0fficers are subject to the guidance of the Chief Adjudicating 0fficer. There is NO analagous supervisory body for special medical boards. The Centres are the responsibility of the DHSS's Chief Medical Adviser, Social Security, who reports jointly to the Department's Cheif Medical 0fficer and the Second Permanent Secretary, Social Security. Yet the medical pracitioners attached to the Centres are subject to no independent supervision. This position seems anomolous at the very least."

0f medical boards and Pneumoconiosis Panels, once the situation is looked into it is "self evident there is a risk of compromise...the independence of the special medical boards is put into question"... "They resemble tribunals in that they give a judgment between the citizens and the government but they are not suject to any sort of scrutiny by the Council on Tribunals...there are many administrative matters in which these boards are involved where they are capable of causing hardship and injuries to the citizen by not conducting their buiness fairly and efficiently" [4th report from Select Committee on the Parliamentary Commissioner for Administration 1983-84).

Doctors who exercise adjudicative functions are also involved in the Centres' welfare or preventative work. A special medical board can be faced with a claimant who has contracted asbestosis as a result of working in a factory already checked by the same doctors and found by them "as not posing any threat to the workforce..."

"It is questionable whether special medical boards have access to adequate facilities for the diagnosis of cases" of asbestos-related diseases. "Little use appears to be made of electron microscopes despite their far superior powers of magnification. In one case...a PMP post mortem found no asbestos bodies in the diceased's lungs. Subsequent examination by electron microscopy revealed nearly 500 million fibres fibres of white asbestos in one gram of lung tissue."

p27 "...those fighting the asbestos scourge do not operate under the best of circumstances. They are faced with hostile employers determined to disguise the real and potential dangers of asbestos. (For example) the refusal of many companies to disclose health records or keeping their records secret in an attempt to 'cover-up' the real dangers discovered within their own operation."

"Another multinational PR emphasis... (because) mesothelioma is the one cancer known to be caused only by asbestos (and) is relatively rare in the population at large, manufacturers encourage the belief that mesothelioma is the only form of cancer proven to be caused by asbestos". This is not true. Mesothelioma is the cancer of the membranes lining the lungs and intestines. It accounts for just 10 per cent of cancers which have been proven to be induced by exposure to asbestos: 80 per cent of asbestos cancers are lung cancers and a further 10 per cent are other types of cancers, and asbestos also kills by inducing asbestosis. To concentrate on mesothelioma is to concentrate on the minor killer at the expense of the major killer effects." "The multinationals adopt this position because the lower level of risk reported, the less opposition to the continued use of asbestos, the less pressure for expensive control equipment and the less they pay out in compensation."

"Manville found not to inform employees if their regular X-rays showed signs of asbestos disease... this corporation had known about asbestos hazards at least since 1934 [we know it was earlier, see Blue Murder]". They also used statistical tricks in asbestos lobbies.

"0ver the past ten years these are the arguments put forward by the asbestos corporations and their associated lobbyists. They have been disproven or brought into doubt by scientists, unionists, health and safety engineers and doctors. But each of the publicly promoted arguments has slowed progress towards bans and zero exposure to asbestos. All achievments in the struggle against asbestos, such as the bans in Sweden and Denmark, and the lower exposure levels legislated in other countries, have been won against this backdrop of industry tactics and their incorporated half-truths and sheer deceptions."

[extracts from ASBESTOS: Politics & Economics of a Lethal Product, by ICEF, Geneva, Switzerland, 1984]